

Doc
W 2
A 2
9 Q 1 m

UNCLASSIFIED

(DOCUMENT SECTION)

~~RESTRICTED~~

Army Service Forces
Quartermaster Corps
CLIMATIC RESEARCH LABORATORY
Lawrence, Massachusetts

Monthly Report - 1 April 1944

CLASSIFICATION CHANGED	
TO	UNCLASSIFIED
AUTH	Letter QMRDW-I
DATE	12 Oct 54
SECURITY OFFICER	
Frank B Rogers	

LIBRARY
MEDICAL
NOV 10 1949
ARMY

1. Personnel

a. The following reported for duty:-

Lieutenant A. C. Barger, MC
Miss Janice Lenane
Eleven enlisted men

b. Four enlisted men have been selected and are about to begin their basic training. This completes the allotment of 45 men allowed.

2. Reports

a. A multilith has been installed and is in current use for reproduction of Daily Reports, Numbered Reports and Monthly Summaries.

b. The following report has been sent to the Office of The Quartermaster General for the approval of Colonel G. F. Doriot.

Report No. 76-A - 1 March 1944

A Consideration of the Protection Against Cold Afforded
By Present Handgear
Four Tables and Six Figures

The possibilities and limitations of protection against cold afforded by handgear have been analyzed on the basis of mathematical and experimental methods for present handgear combinations at ambient temperatures ranging between plus 70°F. and minus 40°F., and at a barometric pressure of one atmosphere. It has been found that a shape factor (the effect of the dimensions of the object to be insulated against cold) imposes a severe limitation on the maximum clo value possible. The demands of dexterity impose a further limitation. On the basis of the analysis presented it appears that no glove can be constructed with a clo value higher than 1.0 to 1.2 clo provided for the fingers, and no mitten with a clo value higher than 2.0 to 2.5 clo.

In addition, a method of estimating average handgear tolerance times at all ambient temperatures has been developed, and appears valid on the basis of data available at present at this laboratory.

UNCLASSIFIED

~~RESTRICTED~~

R E S T R I C T E D

Since handgear made of the best combinations of ideal insulating fabrics (insulating value equal to that of still air) is inadequate, it is recommended that handgear designers concentrate their efforts on other principles of keeping the hands warm. Such methods as artificially supplied heat, reflecting fabrics, provision for withdrawing the hands inside the garments worn, etc., should be developed.

c. Field Trip, Cold Climate, III, was held in the environs of Franconia, New Hampshire, the latter part of the month. The following items received especial experimental attention on this trip:-

Cold Climate Uniforms
Snow Brush
Fuels, Arctic, Ration Heating
Cuff Closure for Field Trousers
Snowshoe Bindings
Goggles
and other Test Items classified as Confidential.

d. In the Provisional Reports during the past month tests on the following items were discussed:-

Plastic Trays
Bag, Sleeping, Wool
Jacket, Field, Wool
Jacket, Field, Pile
Mask, Face
Pile Clothing, Effect of Laundering
Tent, Hospital, Ward
Fuels, Arctic, Ration Heating
Uniform for Climatic Zone II
and other Test Items classified as Confidential.

JOHN H. TALBOTT
Lt. Col., MC
Commanding